Surgeon's Anesthesia Preferences

Electrophysiology

SURGEON: Berman, Maddox, Sorrentino

Drugs to Avoid
- Lidocaine
- Midazolam (Berman cases)
- Beta blockers – NOT to be used unless specifically requested by the cardiologist, usually after the procedure

Setup
- Standard monitors +/- arterial line
- Each patient should have 2 functioning peripheral IVs (20G-16G) with 2 extensions
- Additional central access is provided by cardiologist

MRI (Lab 2)
- Charge monitor batteries (pulse oximeter, 4 EKG electrodes)
- Place extension on circuit and ETCO2
- Place esophageal temp probe which will be hooked up to EP monitor
- Frequent adjustments under fluoroscopic guidance may be required
- Enter temp manually in CompuRecord

MAC Cases
- If giving ketamine, pretreat with glycopyrrolate 0.1-0.2 mg
- Use Afrin nasal drops in both nostrils before starting sedation
- O2 mask with 1 extension with CO2 line threaded through holes in mask

General Cases
- Maintain sevoflurane at 0.3 MAC
- Propofol/ketamine infusion
- Remifentanil/alfentanil infusion

General Considerations
- Give approx 1-2 liters fluid before incision, then KVO
- EP team usually uses about 1-2 liters of fluid during the case. Make sure this is documented with fluid totals
- Ancef 1 gram for nearly all cases
- Keep MAP approx 65 mmHg. Rely on the arterial line reading on the EP monitor
- Use phenylephrine to treat hypotension
- Arrhythmias are generally managed by the EP team
- Document urine output by asking EP RN
- Hold IV pole when magnets move
- May need to give Lasix at the end of the procedure
- Give ketamine bolus if needed for coughing/moving (propofol may take away arrhythmia)
- All patients should remain supine at the end of the procedure. Head of the bed should not be elevated.
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Cautions
- Portions of catheter ablation procedures can result in mild to moderate discomfort
  - Sheath insertion/removal
  - Ablation. RF energy often produces a sensation of substernal burning or aching
  - Additional analgesia may be appropriate
- Sudden severe chest pain or pain that persists (>30-60 sec) should prompt consideration of cardiac perforation, myocardial ischemia, or injury to collateral structures such as the diaphragm, esophagus, or pleura
- Patient movement must be controlled. Sudden patient movement can result in cardiac perforation, cardiac tamponade, and death

Timeline for a Typical EP Study

Anesthetic Management of Catheter Ablation for Atrial Fibrillation
- General anesthesia
- Induction with propofol or etomidate
- Intubation after paralysis with succinycholine
- Maintenance
  - Sevoflurane
  - Remifentanil/alfentanil infusion
  - Propofol infusion
- Full heparinization is achieved immediately upon gaining access to the left atrium with a heparin bolus followed by continuous infusion for the full duration of the procedure
- Maintain ACT >325 sec
- Avoid muscle paralysis. Phrenic nerve injury can be avoided by confirming lack of phrenic nerve capture during high output pacing
- Reverse with protamine at the end of the procedure. Check with the cardiologist before administering protamine
- Document a baseline ACT before heparin bolus is given to serve as a guide to reversal
- Give Protonix (pantoprazole) 40 mg / Pepcid 20 mg per surgeon’s request
- Use esophageal temp probe. Frequent adjustment under fluoroscopic guidance may be required
- Alert EP team about an increase in temp of >0.1–0.2 degrees C
- Keep patients warm
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- Isoproterenol must be infused through central line. Isuprel will increase HR and decrease BP, so have phenylephrine available
- There may be a need to suddenly cardiovert the patient. Make sure patient is DEEPLY sedated.

Drugs to Use

Remifentanil

- Diluted to 0.05 mg/mL (50 mcg/mL; 1 mg in 20 cc of NS)
- Infusion rate: 0.02–0.05 mcg/kg/min

Alfentanil

- Diluted to 100 mcg/mL (2500 mcg in 25 cc of NS)
- Infusion rate: 0.1–1.0 mcg/kg/min

Propofol

- Infusion rate: 20–100 mcg/kg/min

Ketofol

- 10:1 mixture of propofol and ketamine
- Infusion rate: 20(2)–100 (10) mcg/kg/min

IT Issues

- “Lab 1” prints to 8 West, “Lab 2” prints to EP front desk
- For computer problems, call IT at 1-7500. Call Joey Tobias at 706-834-7209 or page 9192
- Unplug all cables from box underneath computer and take it out of the room for 5 min, hook up again, and try again